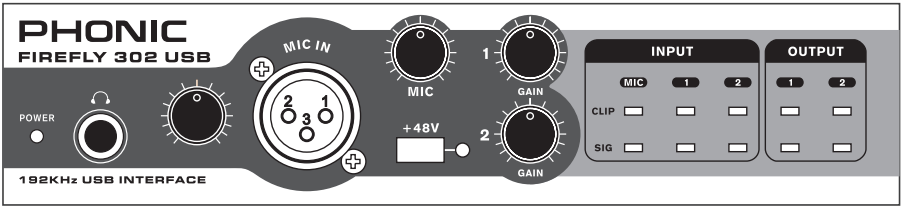
PHONIC

Firefly 302 USB

Portable USB Audio Interface



English **User's Manual**

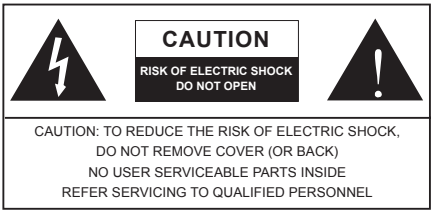
IMPORTANT SAFETY INSTRUCTIONS

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus. The MAINS plug is used as the disconnect device, the disconnect device shall remain readily operable.

Warning: the user shall not place this apparatus in the confined area during the operation so that the mains switch can be easily accessible.

1. Read these instructions before operating this apparatus.
2. Keep these instructions for future reference.
3. Heed all warnings to ensure safe operation.
4. Follow all instructions provided in this document.
5. Do not use this apparatus near water or in locations where condensation may occur.
6. Clean only with dry cloth. Do not use aerosol or liquid cleaners. Unplug this apparatus before cleaning.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified may result in hazardous radiation exposure.

Firefly 302 USB

Portable USB Audio Interface

USER'S MANUAL

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V1.0 NOV 7th, 2008

Introduction

Congratulations on your purchase of one of the newest members of the Phonic Firefly series of recording interfaces, the Firefly 302 USB. Through the Firefly's ultra low-noise microphone input and two line inputs, together with the USB 2.0 interface, users are able to digitally transfer their audio to a computer in high resolution audio that meets today's modern production standards (24-bit, with a sampling rate selectable up to 192 kHz). Never again will you have to worry about loss of audio, as the Firefly is the only tool you need to transfer those analog recordings to digital.

Light, easy to use, and with no problematic configuration necessary, the Firefly certainly shines when it comes to simplicity and mobility.

We know how eager you are to get started – wanting to get the product out of the box and hook it all up is probably your number one priority right now – but before you do, we strongly urge you to take a look through this manual. Inside, you will find important facts on the set up, use and applications of your brand new Firefly. If you do happen to be one of the many people who flatly refuse to read user manuals, then we just urge you to at least glance at the Instant Setup section. After glancing at or reading through the manual (we applaud you if you do read the entire manual), please store it in a place that is easy for you to find, because chances are there's something you missed the first time around.

Features

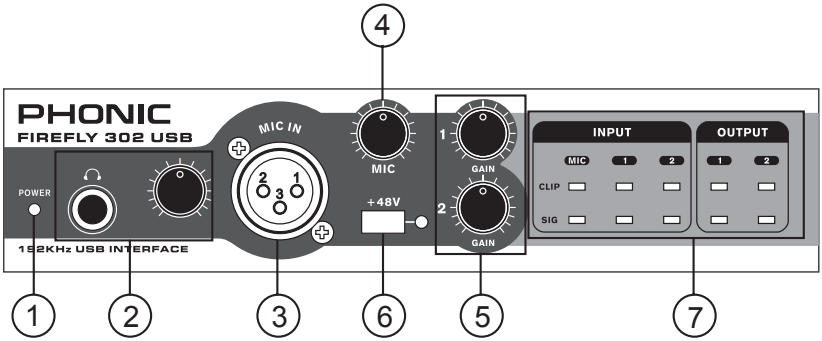
- 5 x 6 24-bit/192kHz USB stream I/O
- 2 x 2 analog operation (RCA)
- Front-panel microphone in (XLR) with +48V phantom power
- Headphone output with dedicated level control
- Near-zero latency ASIO software direct monitoring
- Power indicator LED
- DC power supply included
- Easy-to-see signal and clip LED indicators for input and output
- Mac OSX and Windows XP / Vista compatible

Installation

1. Turn your computer on and connect the Firefly 302 USB to the computer via the included USB cable. It is recommended not to turn the unit's power on just yet, however.
2. Run the setup.exe file on the included driver CD, and follow the installation instructions displayed on screen.
3. When prompted to "disconnect and reconnect" the Firefly, change the power select switch on the rear of the device to DC IN.
4. Continue to follow the on-screen installation instructions to finalize the setup.
5. Open your audio editing / DAW software, and check the Firefly's ASIO driver has been read successfully by the program. This is usually done in the "Devices" submenu. You may also want to edit the Firefly's properties. This is usually done by clicking on the Tools pull down menu, and selecting "Properties". In this area, you can usually select the Firefly's different inputs and outputs, and assign them to various channels. This, of course, depends on the software you are using, so check the software's user's manual for more information.

Quick Start

1. Connect the DC converter to the 9-12V jack in and change the power selector switch to the DC IN position.
2. Plug your USB cable into Firefly's USB port and the other end into any available USB port on your computer. Provided you have already installed the required driver, the computer should detect your Firefly 302 USB.
3. Connect a microphone to the XLR input connector. Talk into the mic and check the LED sig and clip indicators. Adjust the Mic level control as you see necessary.
4. Connect any analog line inputs you wish to use. We advise that you do not attempt to use the 1/4" and RCA connectors on any one input channel at the same time.
5. Open your audio software and configure it so the Firefly 302 USB is set as your input/output device. Please note that the analog and S/PDIF outputs cannot be used to output the signal from the computer simultaneously.
6. Plug your headphones into the headphone output of the Firefly to monitor the return signal.
7. Now you are ready to design high resolution audio productions.



Front Panel Description

1. Power LED Indicator

When you connect the DC power converter and change the power switch to the DC IN position, the unit will be powered and the front power LED will be illuminated.

2. Headphone Output Jack and Control

All the audio signals that are mixed on computer can be monitored with the Headphone output. You can also control the level of this signal with the corresponding level control.

3. XLR Microphone Connector

This is a balanced microphone XLR 3-pin connector, which you can use to connect dynamic or condenser microphones. Phantom power may be applied to allow condenser or ribbon microphones to be connected.

4. Mic Gain

Turn this knob clockwise to increase the Microphone input's gain. You have 44dB of possible gain with this knob, so please take care when applying gain to ensure the Mic Clip LED does not light up.

5. Gain 1 and 2

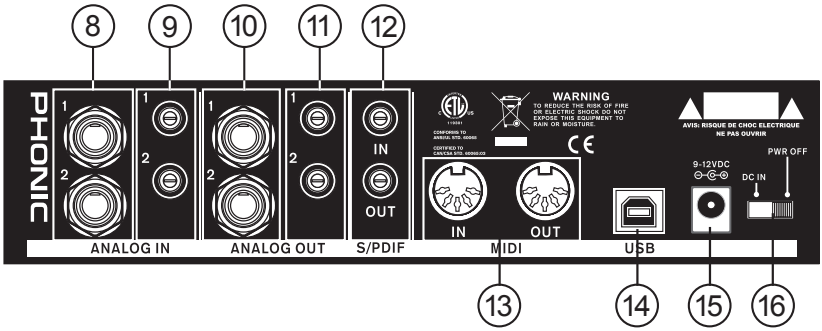
These knobs control the input gain for the RCA and 1/4" plug input jacks located on the rear panel. Turn them clockwise to increase the signal level gain or turn them counterclockwise to lower the input levels. Gain 1 controls the Analog In 1 RCA and 1/4" TRS input jacks, and Gain 2 controls the Analog In 2 RCA and 1/4" TRS input jacks. Each gain control is independent of the other, so you can easily match your input levels.

6. +48V Phantom Power

Pushing this button will activate +48V of phantom power on the microphone input, allowing users to connect condenser microphones, ribbon microphones, or other input devices that require +48V power to operate. If you are not entirely sure if your mic requires phantom power, please refer to the microphone's operation manual or consult the manufacturer.

7. Signal / Clip Indicators

These LED indicators give users an idea of when their analog and mic inputs and outputs are receiving a signal (sig) and when that signal reaches high peaks just prior to the signal being dynamically clipped, which may cause undesirable effects to the integrity of your audio (clip).



Rear Panel Description

8. Analog 1/4" TRS Inputs 1 and 2

These are balanced 1/4" TRS Line Inputs and can be used to connect any line level devices, such as CD players or DAT recorders.

9. Analog RCA Inputs 1 and 2

These are RCA inputs and can be used to connect any device like CD players, DAT recorders, turntables, and even analog mixers (taking the signal from a mixer's Record or 2 track outputs).

Important Note: Keep in mind that the two RCA inputs are completely independent of one another; however these inputs should not be used if the corresponding 1/4" analog 1 and 2 inputs are used, as doing so would have quite undesirable results. You can, however, mix and match these inputs. If, for example, you wanted to use Input 1's RCA connector and Input 2's 1/4" connector that would not cause any problems.

10. Analog 1/4" TRS Outputs 1 and 2

This are balanced 1/4" TRS Line Outputs with line level signal (+4dBu). Use them to get a stereo output channel and connect them to active monitors (such as the Phonic P8A), or perhaps to an amplifier and a passive pair of speakers. You could also use them with signal processors, mixers or other external devices.

11. Analog RCA Outputs 1 and 2

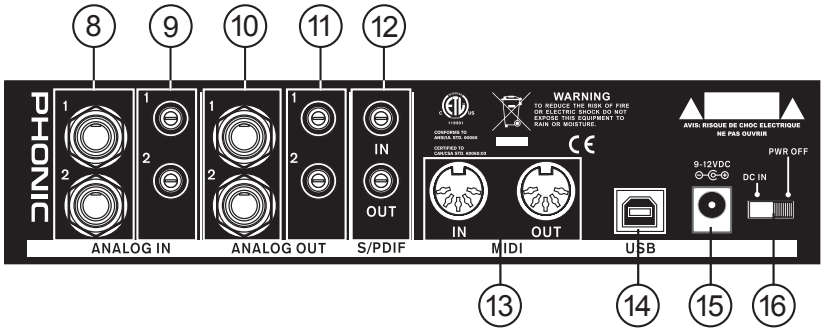
These are RCA line outputs. They accept RCA cables and can be connected to any external device that uses RCA connectors. This could include tape recorders and MP3 recorders.

12. S/PDIF In/Out

These are a standard S/PDIF Digital Audio Input/Outputs that can be use with digital mixers, DAT recorders, or any external device that uses this Digital format. The S/PDIF's output sampling rate is determined by the sampling rate set by the Firefly control software. Please use a 75 ohm coaxial cable with RCA plug if you are using the S/PDIF connection, as the most common problems associated with glitches in digital interfaces are the result of using poor quality cables.

13. MIDI In/Out

You can have 16 simultaneous MIDI input/output channels sent to and from your computer through the Firefly 302 USB.



14. USB Port

This is a digital USB 2.0 connector that you can use to connect to your computer. Doing so allows users to send their audio signal from the Firefly to the computer, and vise-versa.

15. 9-12VDC Input Power Jack

Connect the supplied DC converter to this jack to feed the unit. Please only use this DC converter in order to ensure no damage is done to the Firefly. If for any reason your converter gets lost or damaged and you need a replacement, please contact your local Phonic dealer.

16. Power Switch

Use this switch to turn the Firefly 302 USB on and off.

USB Interface

System Requirements

The following are the minimum required specifications for use with the Firefly 302 USB. If your computer does not meet these requirements, you will experience lagging of audio and possible freezing of your computer when attempting to operate the Firefly.

Windows

- Microsoft® Windows® XP (with SP2) or Microsoft® Windows® Vista
- Available USB 2.0 port
- Intel Pentium® 4 processor or equivalent AMD Athlon processor
- Motherboard with Intel or VIA chipset
- 5400 RPM or faster hard disk drive (7200 RPM or faster with 8 MB cache recommended)
- 256 MB or more of RAM (512 MB recommended)

Macintosh

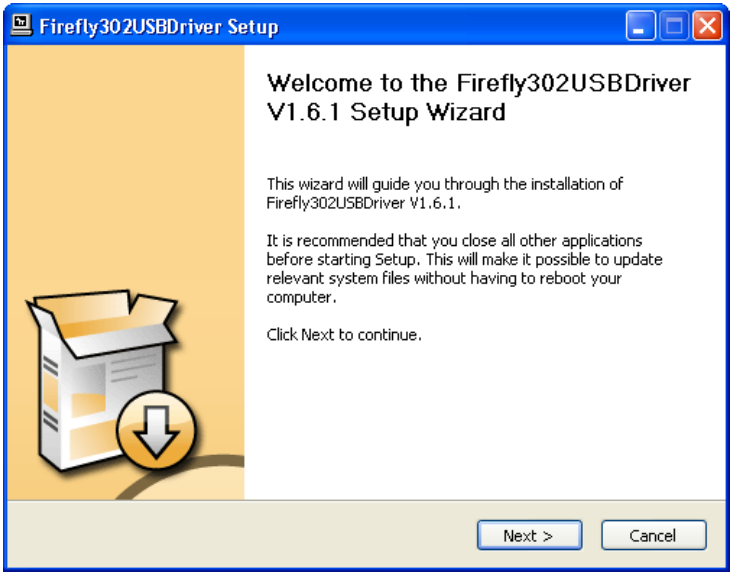
- OS X Leopard 10.5.1 or later with USB support
- Intel Core 2 Duo or later processor (G4 processors are not supported)
- 256 MB or more of RAM (512 MB or more recommended)

Driver Installation

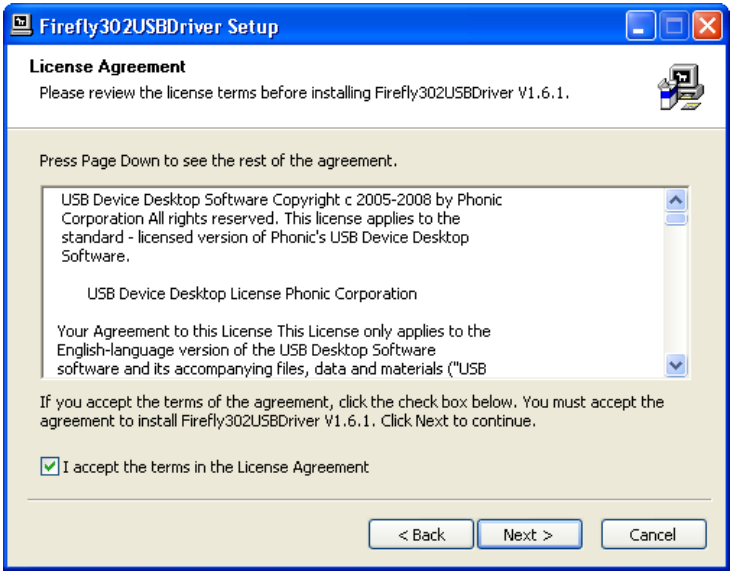
To use the Firefly efficiently (or at all) on any computer, it is important to install all the necessary drivers from the included CD. We advise that users read all instructions carefully before continuing on to each step of the installation process, as they will be asked to, howev disconnect and reconnect their Firefly.

Windows XP (with Service Pack 1 or 2)

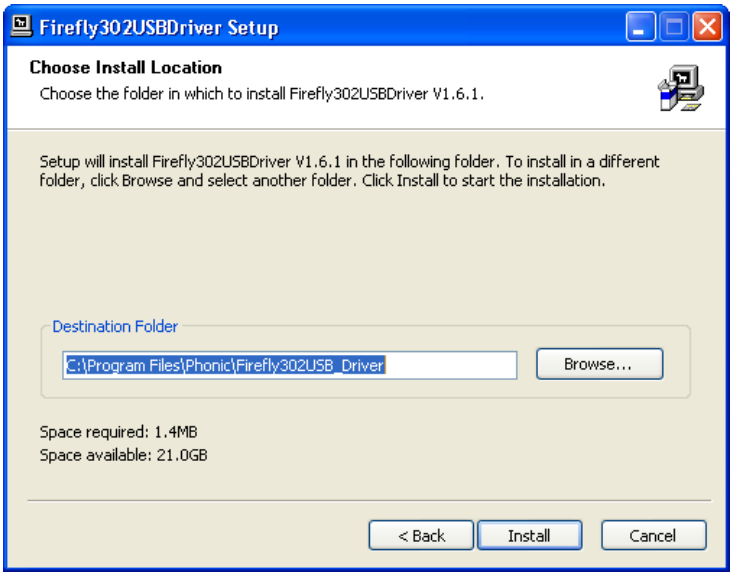
1. It is recommended that you quit all applications before starting the installation process.
2. Connect the Firefly 302 USB to the computer, leaving the power of the unit off.
3. Insert the installation CD included with your Firefly into the CD-ROM drive of your computer. If the CD does not automatically start the installation process within a few moments, then navigate to “My Computer” → your CD-ROM drive → “Firefly-302USB_Driver” → double-click “setup.exe” to begin the installation manually. The Firefly Control Panel software also will be installed at this time.
4. Follow the on-screen installation instructions, turning the Firefly on when asked to ‘disconnect and reconnect’ the unit.


Firefly302USBDriver Setup
Welcome to the Firefly302USBDriver V1.6.1 Setup Wizard
This wizard will guide you through the installation of Firefly302USBDriver V1.6.1.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

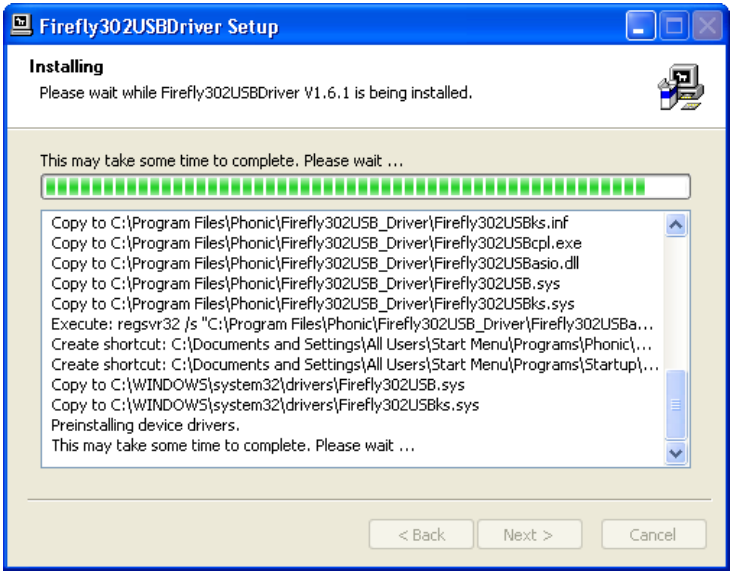
Make sure no other programs are running on your PC and click “Next”.


Firefly302USBDriver Setup
License Agreement
Please review the license terms before installing Firefly302USBDriver V1.6.1.
Press Page Down to see the rest of the agreement.
USB Device Desktop Software Copyright c 2005-2008 by Phonic Corporation All rights reserved. This license applies to the standard - licensed version of Phonic's USB Device Desktop Software.
USB Device Desktop License Phonic Corporation
Your Agreement to this License This License only applies to the English-language version of the USB Desktop Software software and its accompanying files, data and materials ("USB
If you accept the terms of the agreement, click the check box below. You must accept the agreement to install Firefly302USBDriver V1.6.1. Click Next to continue.
I accept the terms in the License Agreement
< Back
Next >
Cancel

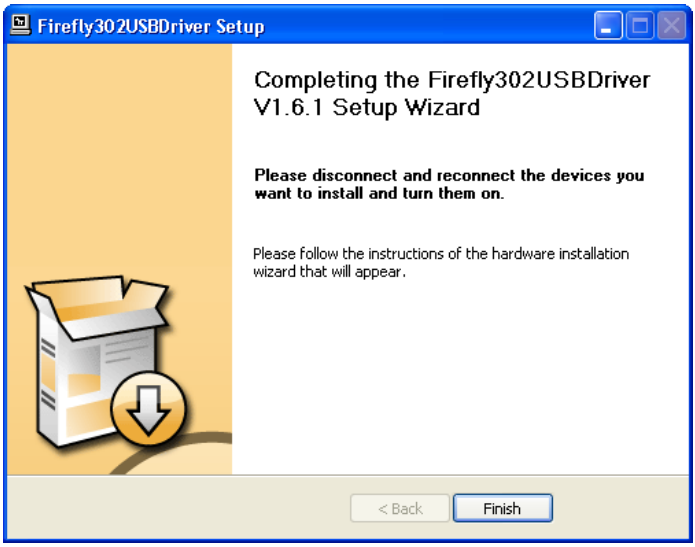
Read and accept the terms of the License Agreement and click “Next” to continue.


Firefly302USBDriver Setup
Choose Install Location
Choose the folder in which to install Firefly302USBDriver V1.6.1.
Setup will install Firefly302USBDriver V1.6.1 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files\Phonic\Firefly302USB_Driver
Browse...
Space required: 1.4MB
Space available: 21.0GB
< Back
Install
Cancel

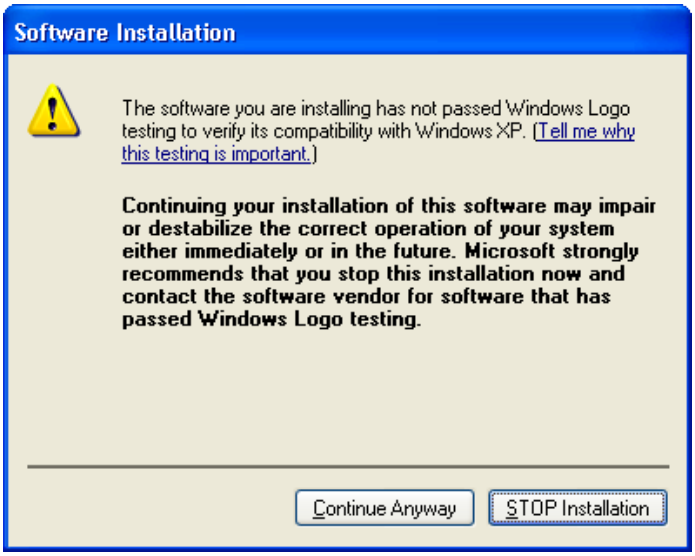
Either select a new destination for the installation,
or else click “Install” to accept the default directory.


Firefly302USBDriver Setup
Installing
Please wait while Firefly302USBDriver V1.6.1 is being installed.
This may take some time to complete. Please wait ...
Copy to C:\Program Files\Phonic\Firefly302USB_Driver\Firefly302USBks.inf
Copy to C:\Program Files\Phonic\Firefly302USB_Driver\Firefly302USBcpl.exe
Copy to C:\Program Files\Phonic\Firefly302USB_Driver\Firefly302USBasio.dll
Copy to C:\Program Files\Phonic\Firefly302USB_Driver\Firefly302USB.sys
Copy to C:\Program Files\Phonic\Firefly302USB_Driver\Firefly302USBks.sys
Execute: regsvr32 /s "C:\Program Files\Phonic\Firefly302USB_Driver\Firefly302USBa...
Create shortcut: C:\Documents and Settings\All Users\Start Menu\Programs\Phonic\...
Create shortcut: C:\Documents and Settings\All Users\Start Menu\Programs\Startup\...
Copy to C:\WINDOWS\system32\drivers\Firefly302USB.sys
Copy to C:\WINDOWS\system32\drivers\Firefly302USBks.sys
Preinstalling device drivers.
This may take some time to complete. Please wait ...
< Back
Next >
Cancel

The installation will then commence.


Firefly302USBDriver Setup
Completing the Firefly302USBDriver V1.6.1 Setup Wizard
Please disconnect and reconnect the devices you want to install and turn them on.
Please follow the instructions of the hardware installation wizard that will appear.
< Back
Finish

Connect the Firefly 302 USB to the computer and push 'Finish' to complete the installation.

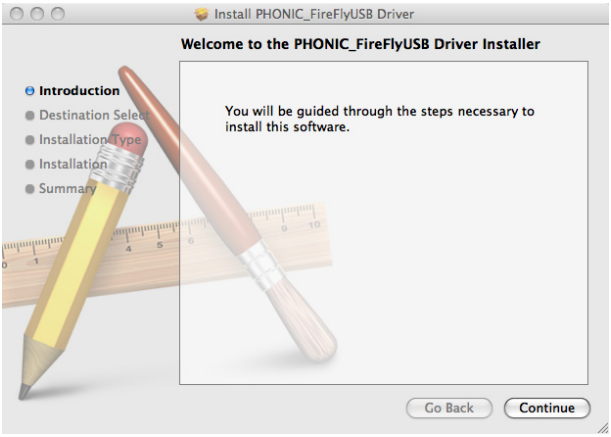

Software Installation
The software you are installing has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

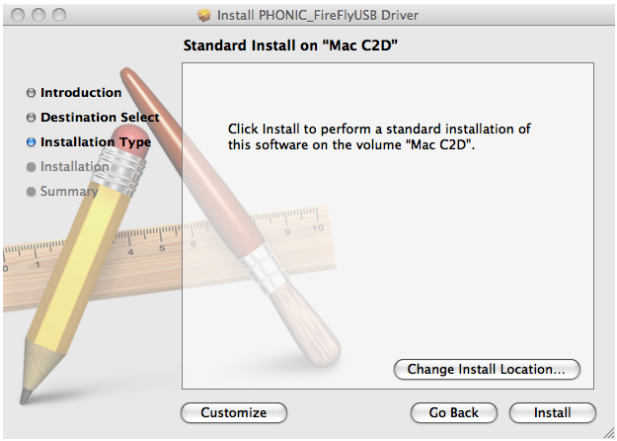
If a message is displayed indicating that the software has not passed Windows Logo test, click "Continue Anyway."

After installation is complete, an installation complete message will appear on screen. Click 'Finish' to exit.

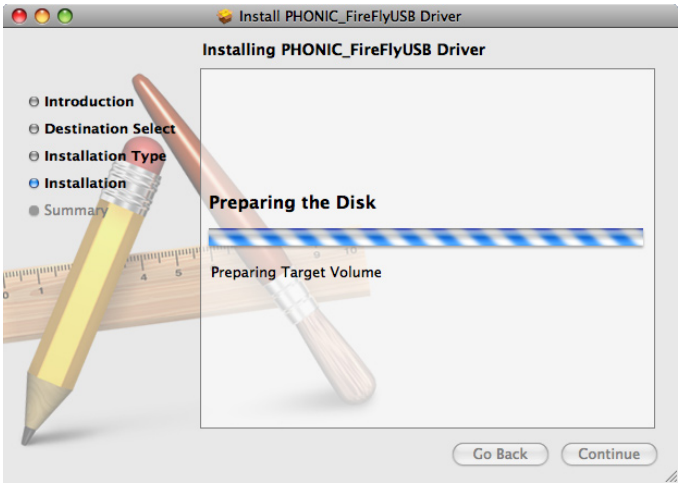
Mac OSX Driver Installation

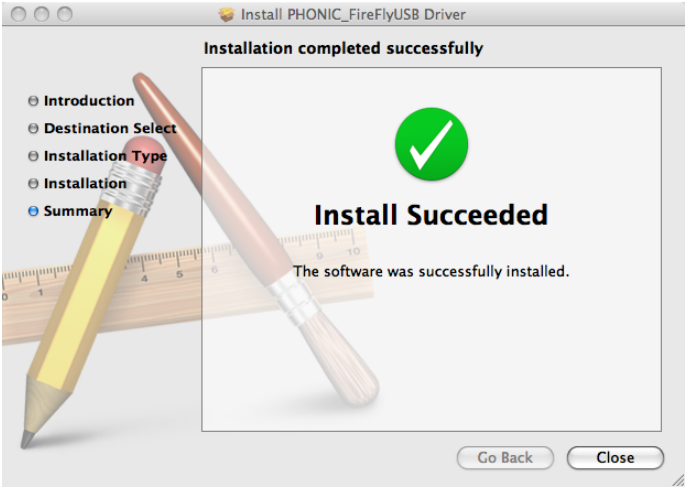
1. It is recommended that you quit all applications before starting the installation process.
2. Do not connect the Firefly 302 USB to the Mac until after you have installed the driver.
3. Insert the installation disc into the CD drive of your computer. If the CD does not automatically start the installation process, navigate to your CD drive → "Phonic" → "Firefly-302USB" → then run "PHONIC_FireflyUSB.mpkg" to begin the installation manually. The Firefly Control Panel software also will be installed at this time.
4. Follow the on-screen installation instructions.
5. After installing the Mac driver, connect the Firefly 302 USB to the Mac's USB port.





Select "Change Install Location..." to select a new destination for the Mac software. If not, the software will automatically be installed to the default location.





Click ‘Close’ once the installation has completed.

Channel Assignment

When using a Digital Audio Workstation on a PC, and within the included Phonic Firefly 302 USB control panel software, the following names have been attributed to the input channels of the Firefly.

Channel Name	Firefly Channel
Analog In 1	1/4" and RCA Analog Input 1
Analog In 2	1/4" and RCA Analog Input 2
Mic In	Microphone Input
Mic In	Microphone Input
S/PDIF In	S/PDIF Input
S/PDIF In	S/PDIF Input
Midi In	MIDI Input

If you would like to use the Firefly 302 USB as your default audio output device on your PC, simply go into the Windows control panel and select "Sound and Audio Devices." Select the Audio tab, and use the pull-down menu to select one of the Firefly 302 USB's inputs from the list of available output devices. The Firefly 302 USB can also be selected as the default output device for individual programs by editing said programs' settings / options.

Operating With DAW Software

After successfully completing the installation process, the following process must be followed to work efficiently with the Firefly 302 USB. In the following example, we are using Cubase - however most other software should be similar.

1. Open the program.

2. Go to the 'Devices' pull-down menu and select 'Device Setup'. On the left, select 'VST Multitrack'.

3. From the ASIO Driver drop-down list select the 'Firefly302USB ASIO Driver'. A pop-up box will ask you if you want to switch to the ASIO driver. Click 'Switch'. This completes the basic setup.

4. The following steps should be followed to activate audio tracks received from or sent by the Firefly 302 USB.

a. Go to the "devices" pull-down menu and select 'VST Inputs'. This will display the various inputs ("Analog In 1", "Analog In 2", etc.)

b. Activate channels by clicking the "Active" button located next to each channel name.

5. For further instructions on the operation of Cubase, please consult the owner's manual by pressing F1 while the program is open.

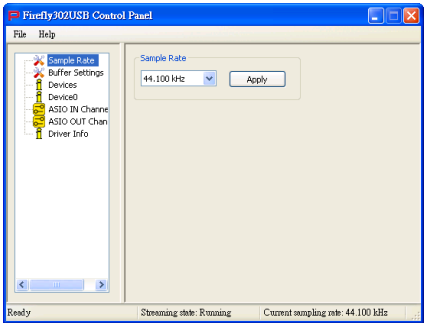
If you wish to reset the Firefly ASIO driver, simply go to the 'devices' pull-down menu and select 'device setup'. Simply click 'reset' and select the 'Firefly302USB ASIO Driver'. Click 'ok' to continue and the Firefly 302 USB should once again become functional.

Windows Operation

The Firefly control panel on the PC can be accessed at any time by entering choosing the shortcut from your Programs menu. This program will not only allow users to alter their device and channel names and properties, but will also let them adjust buffer settings, change sampling rates, and so forth.

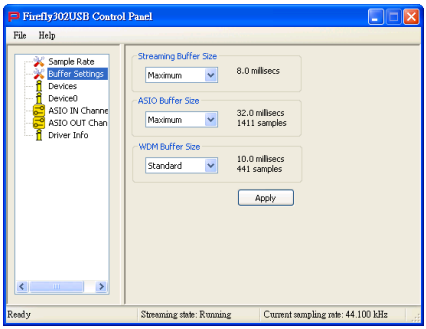
Sample Rate

In this menu, users are able to adjust the sampling rate of the Firefly 302 USB. The sampling rate can be chosen between 44.1, 48, 88.2, 96, 176.4 and 192 kHz. Press 'apply' once a new sampling rate is selected.



Buffer Settings

The Buffer Settings menu is used to adjust the Streaming Buffer, as well as the buffer settings when using the ASIO and WDM drivers.



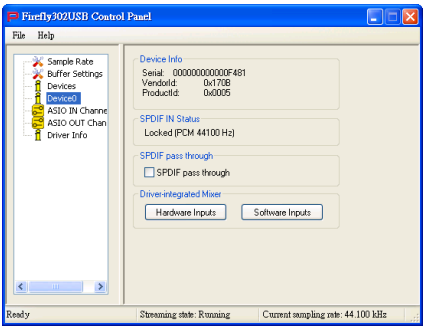
The 'Streaming Buffer' can be adjusted between Minimum (1 millisecond), Small (2 milliseconds), Large (4 milliseconds) and Maximum (8 milliseconds). The selection of the Streaming Buffer size will determine the size of the ASIO and WDM buffer sizes, as displayed in the table at the bottom of this page.

When selecting a new buffer size, users can click 'Apply' to apply the newly selected buffer setting to the device.

		Streaming Buffer Setting			
		Minimum (1 ms)	Small (2 ms)	Large (4 ms)	Maximum (8 ms)
ASIO / WDM Buffer Setting	Minimum	1.5 ms 66 samples	3.0 ms 132 samples	6.0 ms 256 samples	12.0 ms 529 samples
	Small/Smaller	2.0 ms 88 samples	4.0 ms 176 samples	8.0 ms 353 samples	16.0 ms 706 samples
	Large/Small	3.0 ms 132 samples	6.0 ms 256 samples	12.0 ms 529 samples	24.0 ms 1058 samples
	Maximum/Standard	4.0 ms 176 samples	8.0 ms 353 samples	16.0 ms 706 samples	32.0 ms 529 samples

Devices / Device0

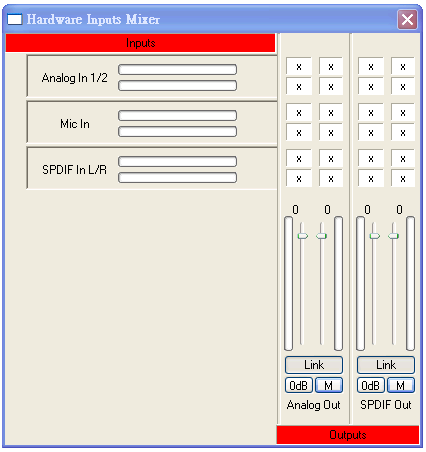
In the Devices section, users are able to view and edit the name of any Phonic USB Devices connected to the computer. The Device0 menu offers device info as well as a S/PDIF pass through function for users to take advantage of. There is also two driver-integrated mixers that users are able to utilize to better customize their input/output levels to suit their computer.



Hardware Inputs Mixer

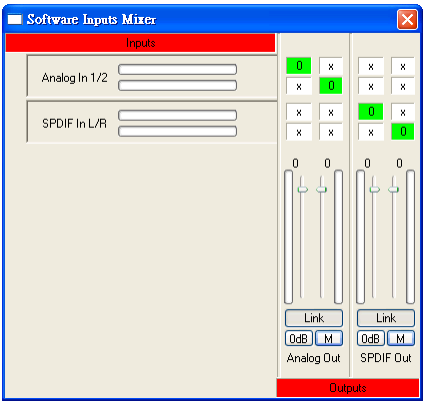
This software-based mixer allows users to adjust levels and routing options of all input signals of the Firefly 302 USB. All of the outputs from this mixer can then be utilized by DAW and other suitable applications.

Level meters are incorporated into the mixing software. Users are given visual depictions of current incoming and outgoing signals from this software mixer.



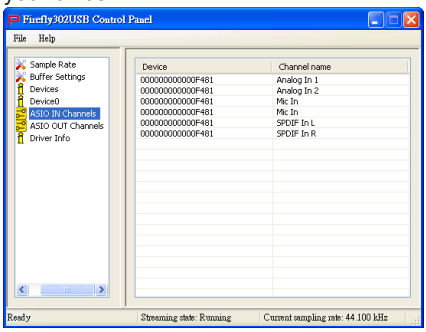
Software Inputs Mixer

This mixer allows users to monitor and adjust the levels (and routing) of the output signals from the PC. Like the Hardware Inputs Mixer, users are able to adjust volume levels and mute output tracks as necessary. Also like the Hardware mixer, level meters are provided on the software mixer's inputs and outputs.



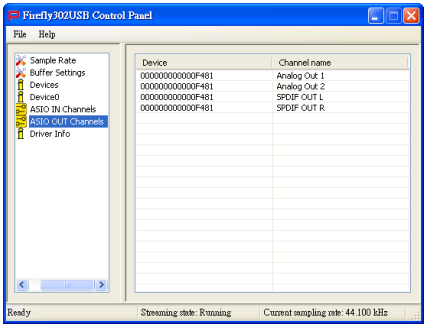
Input Channels

The Input Channels section allows users to view and edit the name of the various input channels received from the USB input. Please note that the channel names used in the picture below may differ from your unit's.



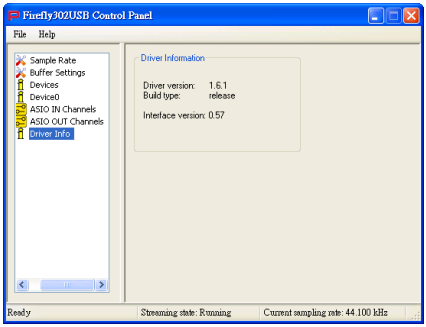
Output Channels

By entering the Output Channels section, users can view and edit the names of the two analog output channels and two S/PDIF output channels that are sent from the computer to the Firefly.



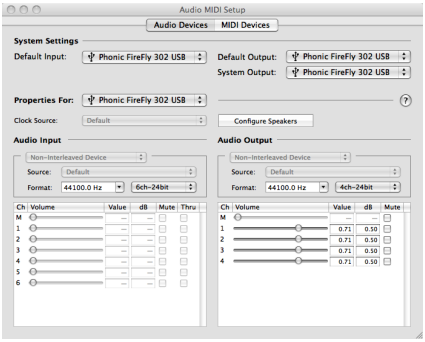
Driver Information

This section allows users to check the version of their currently used driver and the interface. New drivers will be made available from time to time on the Phonic document center, and an announcement will usually be made on the Phonic home page.



Mac Operation

After installing the Firefly 302 USB driver and software to your Mac computer, enter the Audio MIDI Setup application and you should be able to select the Phonic Firefly 302 USB as your default input and output device.



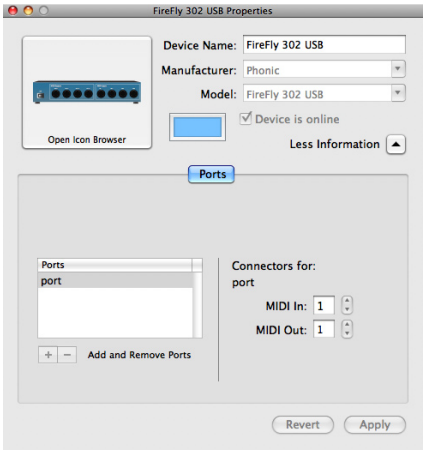
Also in the Audio MIDI Setup, you will be able to adjust volume levels of your various input and output signals, as well as the sampling rate and resolution you want to use. Users are able to select between 44.1, 48, 88.2, 96, 176.4 and 192 kHz sampling rates. Resolution can be selected between 24-bit, 20-bit and 16-bit. Both the sampling rate and resolution can be adjusted in your DAW software as well (depending on what software you use).

Also in the Audio MIDI Setup, tracks can be muted at will, and input signals can be set to 'thru', which - put simply - will return the input signals directly back to their corresponding outputs.

The input and output channel names listed correspond with each of the Firefly's input and outputs. Channels 1 to 6 on the input correspond, in order, with analog inputs 1 and 2 (listed in the Audio MIDI Setup as channels 1 and 2), the microphone input (channels 3 and 4) and the S/PDIF left and right input signals (channels 5 and 6). The output channels 1 to 4 are, in order, analog outputs 1 and 2 and S/PDIF outputs left and right.

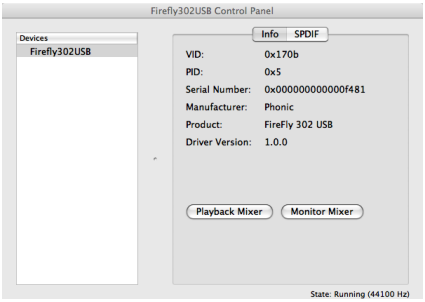
MIDI Setup

Also in the Audio MIDI Setup section, users are able to adjust the Firefly's MIDI functions by selecting 'MIDI Devices' at the top of the window. Within the MIDI Devices section, a 'Firefly 302 USB' icon should be present and users can select it to get the following screen.



Firefly 302 USB Control Panel

As many of the Firefly's features are adjustable through the Audio MIDI Setup section, the Firefly302USB Control Panel serves a few very specific surfaces. As seen in the image below, the main page of the software allows users to view a few important details on the product, including the driver version, serial number, etcetera.



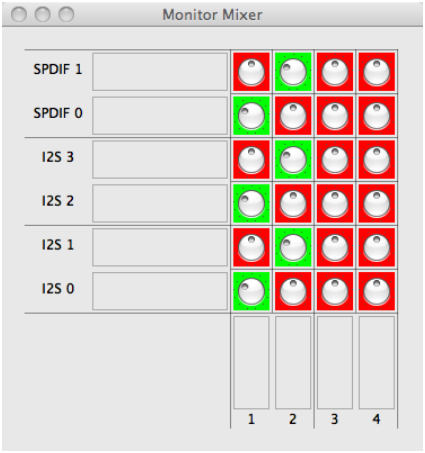
Users can also select one of the two internal mixers that the Firefly's software offers.

Monitor Mixer

The Monitor Mixer, in essence, allows you to adjust your Firefly's input signals before sending them off to your DAW software. All of the inputs are listed; the SPDIF 1 and 0 inputs that are listed in the software are representative of the S/PDIF left and right input signals, I2S 3 and 2 are both the microphone input, and the I2S 1 and 0 channels are analog inputs 1 and 2 on the Firefly 302 USB.

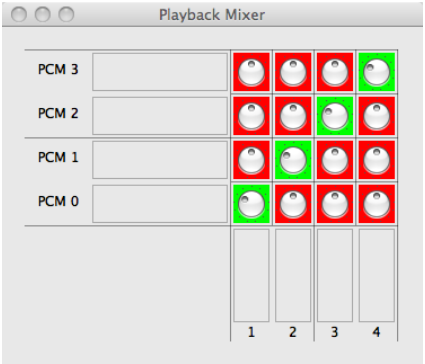
You can opt to adjust your device's input signals in this mixer, or you can just opt to leave it alone all together and rely on your DAW software's level controls.

In case you're wondering why there's only one microphone input, but two microphone channels on the Firefly - this function allows you to make a stereo mix of your microphone signal!



Playback Mixer

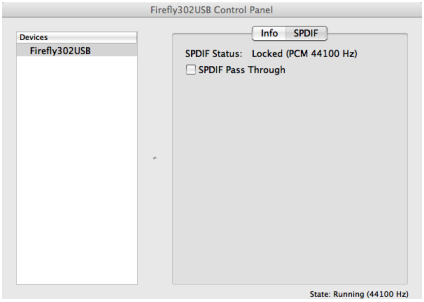
The control panel software also offers a Playback Mixer. This is the 'software mixer', allowing users to adjust the signal they send out to the Firefly 302 USB's outputs. All of the output signals from your DAW software can be adjusted individually before being sent out their respective outputs on the Firefly.



As with the Monitor Mixer, each of the listed output channels is representative of one of the Firefly's output channels. Channels 1 and 2 are analog outputs 1 and 2, while 3 and 4 are the left and right S/PDIF outputs.

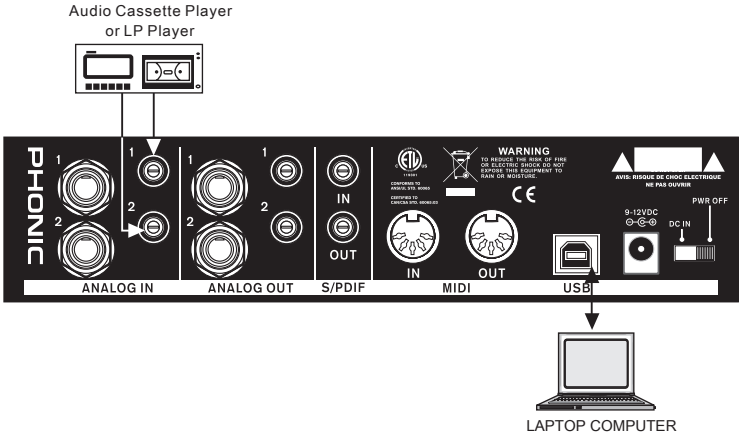
S/PDIF Pass Through

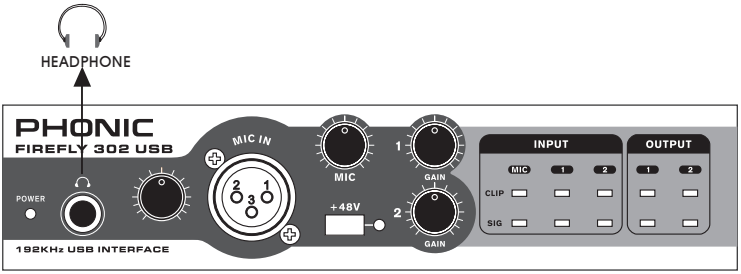
Also included on the Firefly 302 USB Control Panel is the SPDIF Pass Through function. This basically allows you to send your S/PDIF input signals directly out through from the computer to the Firefly's S/PDIF outputs.



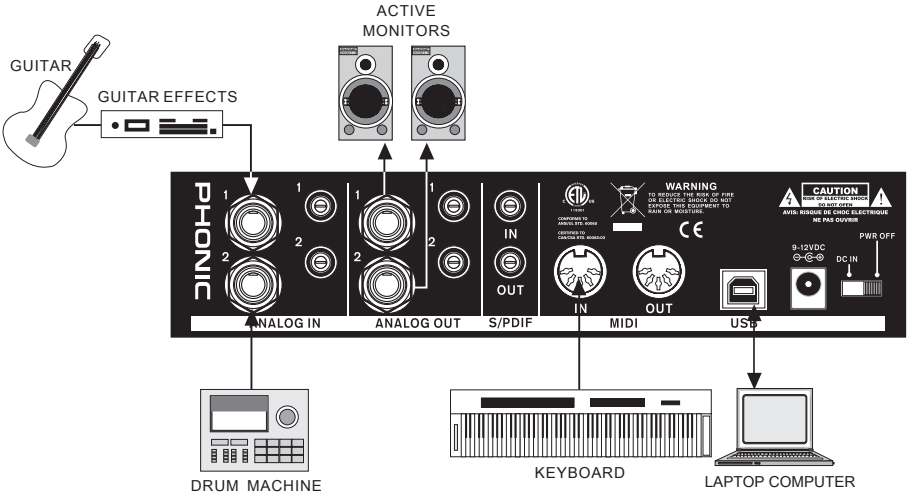
Application

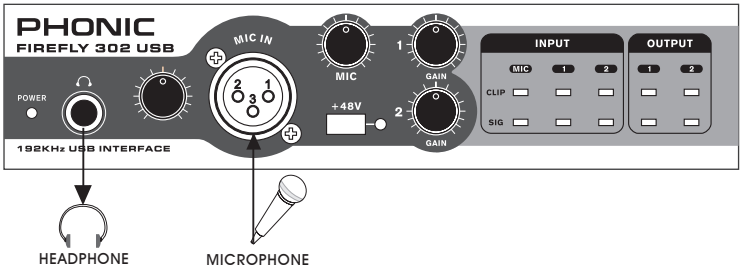
Turning Analog Recordings Digital





Mobile Studio Recording

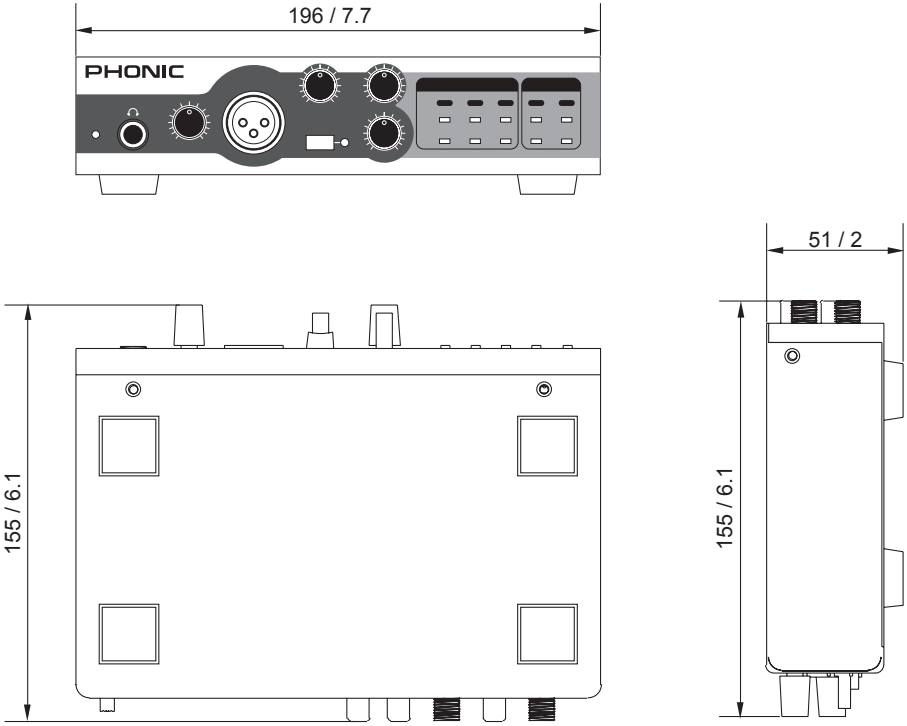




Specifications

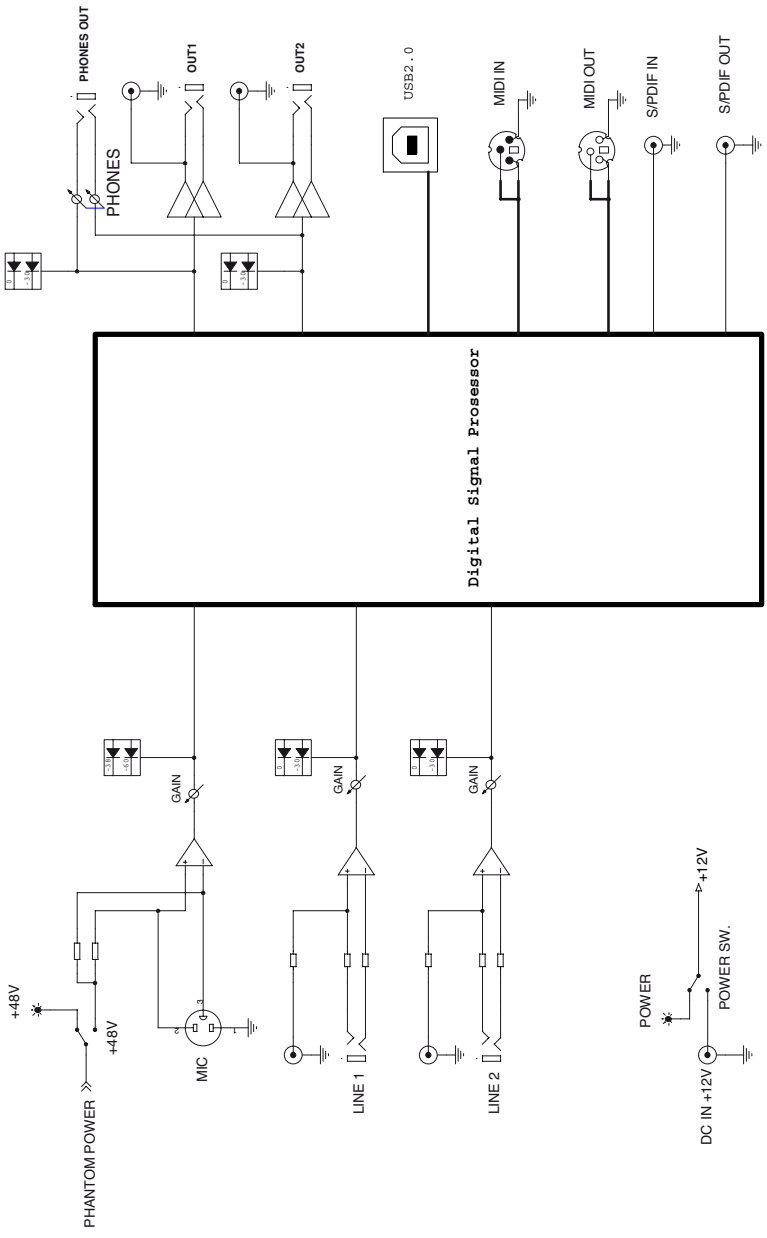
Line Inputs	
Connectors	1/4” TRS, RCA
Max input (balanced)	+10 dBu
Max input (unbalanced)	+10 dBu
Input gain range	-∞ to +10 dBu
Impedance	10K Ohm (Unbalanced), 20K Ohm (Balanced).
Microphone Input	
Connectors	XLR
Available gain	44dB
Input range:	-40 ~ -+4 dBu
Impedance	2k ohm
Line Outputs	
Connectors	1/4” TRS, RCA
Max output (balanced)	+8 dBu
Max output (unbalanced)	+2 dBu
Impedance	100 Ohm (Unbalanced), 200 Ohm (Balanced)
System	
Signal-to-noise ratio	-97 dB @ 48 kHz (A-WEIGHTING)
THD + N	0.002% 1 kHz, @ 48 kHz
Frequency response	20 Hz to 20 kHz @ 48 kHz,+0.03/-0.23 dB
Crosstalk	-81 dB (A-WEIGHTING)
S/PDIF Input and Output	
Connector	Coaxial RCA
Sample rates	44.1, 48, 88.2, 96, 176.4, 192 kHz
Headphone Outputs	
Max output	+2 dBV (1.3Vrms) into 32 ohms
Physical Attributes and Power	
Power supply	DC 9 ~12V (AC to DC adaptor)
Dimensions (W x D x H)	196 x 130 x 44 mm / 7.7” x 5.1” x 1.7”
Weight	0.9 kg / 1.98 lbs

Dimensions



measurements are shown in mm/inches

Block Diagram



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Phonic America Corporation
6103 Johns Road #7
Tampa, FL 33634
(813) 890-8872
support@phonic.com
http://www.phonic.com

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